

Figure 1. IMP 8 (dotted line) and Wind (solid line) data for November 30, 1997, showing from top to bottom the IMF components B_x , B_y , B_z , plotted against the time of the IMP 8 observations. The Wind data have been lagged by the drift time between Wind and IMP 8 (approximately 56 min).

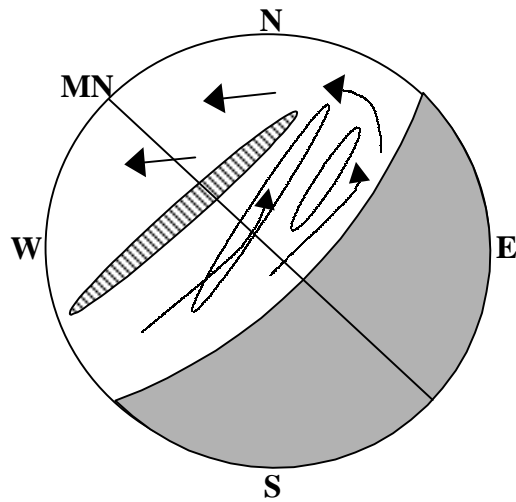


Figure 2. Cartoon showing the positions of the types 3 and 4 auroral structures observed on November 30, 1997, in the ionosphere. The directions of geographic north (N), south (S), east (E), west (W), and magnetic north (MN) are indicated around the outside of the figure. The line of constant geomagnetic latitude through Ny Alesund is shown for reference. Type 3 diffuse aurora is represented by the shaded area. The time-varying type 4 aurora is shown schematically by the discrete oval forms. Arrows indicate the directions of perceived motions from examination of a series of images.

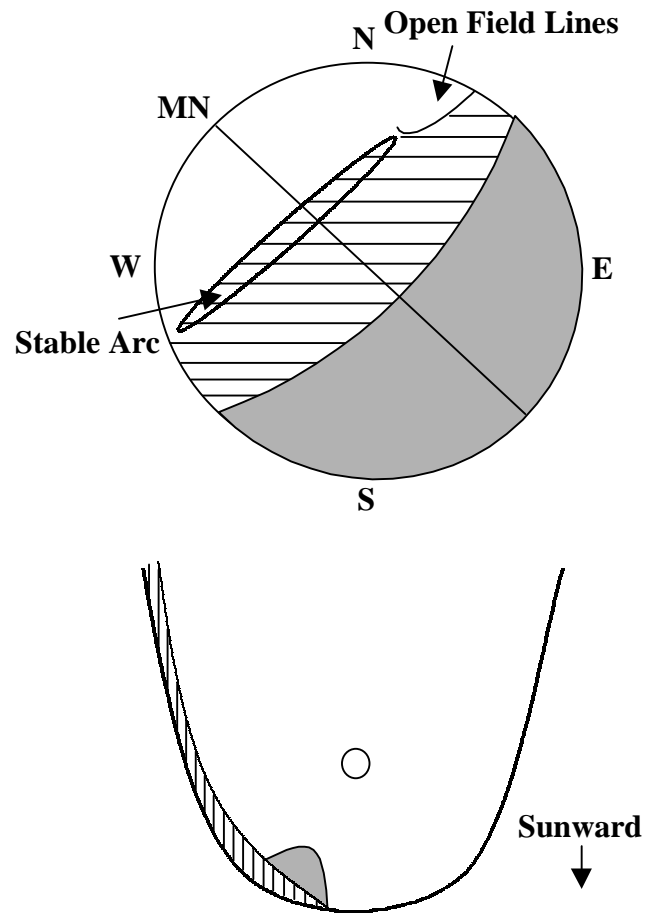


Figure 3. Cartoon showing where the aurora in the ionosphere map to in the magnetosphere. The top sketch shows the locations of the type 3 (shaded region) and type 4 (hash lines) auroral structures as observed in the ionosphere. The layout is the same as Figure 2. The bottom sketch shows where these aurora mapped to in the equatorial plane of the magnetosphere. The location of the Earth is shown as a circle in the center of sketch.

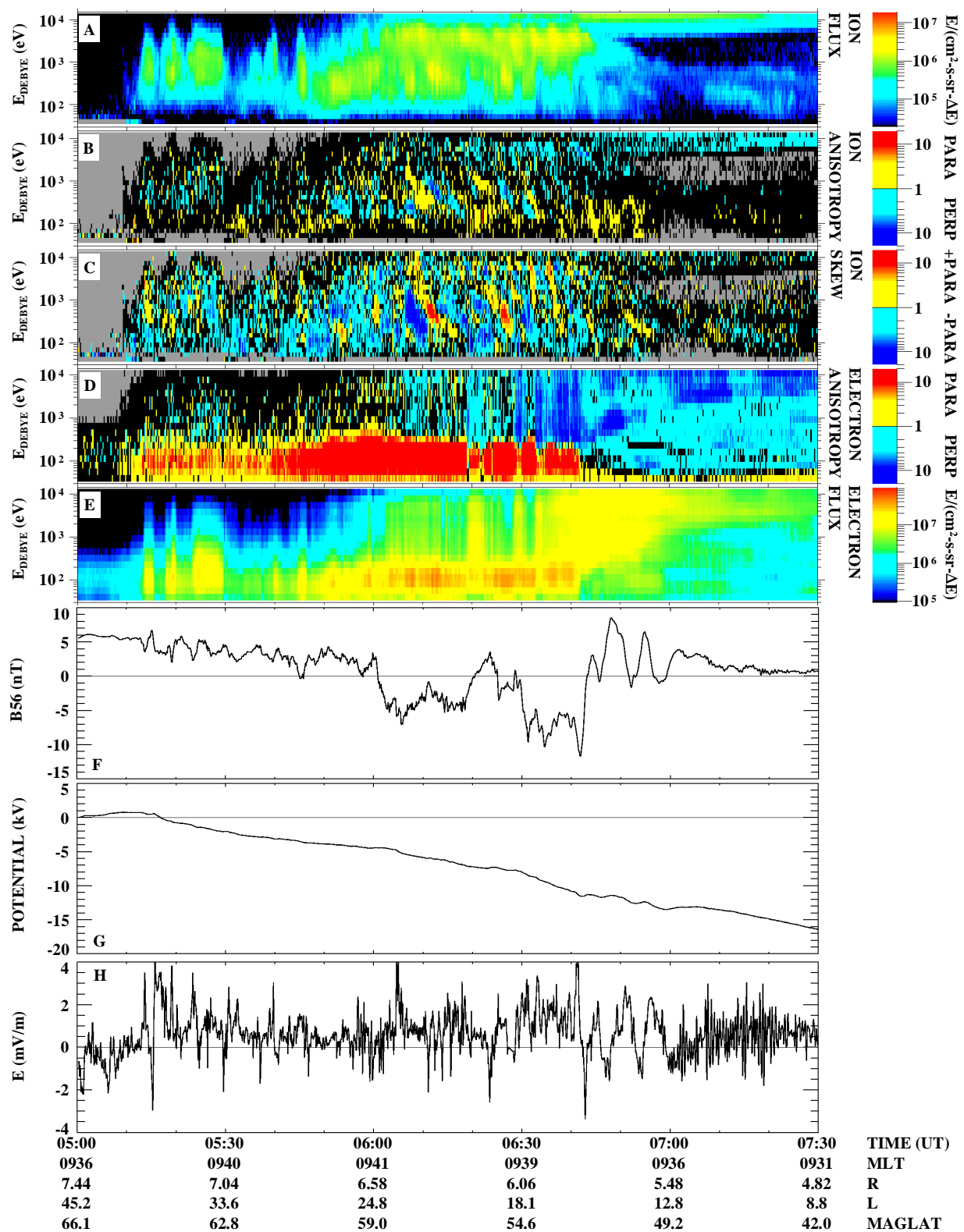


Plate 1. Polar/Hydra data for November 30, 1997, from 0500 to 0730 UT, showing from top to bottom the energy time spectrograms for (a) ions, (b) ion anisotropy, (c) ion skew, (d) electron anisotropy, (e) electrons, (f) B56 component of the magnetic field, and (g) the integrated electric potential and (h) electric field component along the spacecraft velocity vector in a corotating frame of reference. The B56 component of the magnetic field is along the spin axis of the spacecraft and is positive westward.